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ABSTRACT

A new method for evaluating cancer education programs, using an external/internal evaluation team is outlined. The internal program staff are required to collect the data, arrange for a site visit, provide access to personnel, and make available other information requested by the evaluators. The external team consists of a dentist with oncological background and an educational evaluation specialist. The evaluation is conducted in three phases: previsit preparation, on-site visit, and report preparation. This method provides feedback on the process as well as on program outcomes. It focuses on improvement of the program, rather than success of the project. It gives appropriate attention to all stages of program activity. It costs about the same to implement an internal evaluation, but maintains the integrity of an external evaluation approach. The model has been used successfully for four years at the Louisiana State University School of Dentistry Clinical Cancer Education Program with several different evaluators. The project administrators, evaluators, and the funding agency have determined the results to be satisfactory. (DWH)

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THE DEVELOPMENT AND IMPLEMENTATION OF A MODEL FOR EVALUATING CLINICAL SPECIALTY EDUCATION PROGRAMS

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Abstract

Although the need for evaluations and accountability has been well documented, good evaluations of educational programs have been rare! This has been particularly true in medical and dental education where many evaluations are based upon the "I feel or I think it was effective" model. However, the need for greater accountability has been brought into focus by such governing bodies as the National Cancer Institute and the National Institute for Education. As the pressure for effectively documenting program change has increased, the proliferation of evaluation models has expanded. Many of these models, however, have limited applicability to medical/dental heath centers. The focus of this paper is on the development and implementation of a model for evaluating clinical specialty education programs.

The model proposed in this paper is based on an external/internal approach: staff are required to collect data and make arrangements for the external evaluation team—a dentist with an oncological background and an educational evaluation specialist. The evaluation is conducted in three phases: previsit preparation, on-site visit, and report preparation.

The major advantage of the evaluation method described in this paper is that it focuses on improvement of the program rather than to indicate whether or not the program was successful. This model also gives appropriate attention to all stages of program activity. It costs about the same to implement an internal evaluation, but maintains the integrity of an external evaluation approach.

The Louisiana State University School of Dentistry Clinical Cancer Education Program has used this model successfully for four years with several different evaluators. Results have proved satisfactory from the viewpoints of the evaluators, the project administrators, and the funding agency. A discussion of the model and its wider implications is provided.

THE DEVELOPMENT AND IMPLEMENTATION OF A MODEL FOR EVALUATING CLINICAL SPECIALTY EDUCATION PROGRAMS

Although the need for evaluations and accountability has been well documented, good evaluations of educational programs have been rare (Worthen & Sanders, 1973). This appears to be particularly true in medical/dental education where many evaluations are based upon the "I feel or I think it was effective" model (Cassidy, 1983; McLean & Lee, 1982). However, the need for greater accountability has been brought into focus by such governing bodies as the National Cancer Institute and the National Institute of Education, among others. As the pressure to effectively document program changes has increased, there has been a proliferation of evaluation models (Mitzel, 1982), but many of these models have limited applicability to medical/dental health centers.

The purpose of this paper is to outline a new method for evaluating cancer education programs: using an external/internal evaluation team. This model provides feedback on the process as well as on program outcomes and is based on review of data from a multitude of sources, including various program participants, materials produced by the program, and testing results.

Description of the Model

The model is based on an internal/external approach. The internal program staff are required to collect the data, arrange for a site visit, provide access to personnel, and make available other information requested by the evaluators. The external evaluation team consists of two persons, a dentist with an oncological background and an educational evaluation specialist.

The evaluation is conducted in three phases—previsit preparation, on-site visit, and report preparation. During the previsit, the oncologist and the evaluator become familiar with the program and determine their on-site

needs. Then a prearranged schedule which includes time for orientation, interviews, examination of program materials and records, inspection of the facilities, and an exit interview with the program director and staff is provided. Finally, preparation of the report includes analysis of the data and integration of the findings. Conclusions and recommendations are provided during this final stage.

Onsite Visit Preparation: Phase One

Prepsration can begin as soon as the evaluation team has been designated. Previsit preparation must be done by both members and the on-site program director and is essential to a productive on-site visit.

The evaluation team members must become familiar with the program and determine on-site needs. Program materials such as the program proposal, which usually defines the objectives as well as the activities designed to accomplish those objectives, must be inspected. The team must also state what interviews, facility inspections, and program materials they will need. This previsit preparation is essentially an input evaluation, through which the team can make initial judgments about the adequacy of the project's rerources for accomplishidng its objectives, while preparing themselves for the on-site visit.

Previsit preparation by program administrators is primarily logistical: identifying the evaluators, providing them with necessary materials, arranging schedules for interviews and tours, and providing work space. These things must be done so that the site visit can be completed in about two days.

If the team has requested appropriaate information and been provided it, the stage is set. The on-site visit is the most costly phase of the evaluation, so inadequate preparation by either the team or the program personnel must be avoided.

The On-site Visit: Phase Two

The on-site visit is the keystone of the evaluation model described in this paper: the evaluators acquire the rest of the information they need through interviews, observations, and examination of outcome data, for completing phase three--the report.

The on-site visit should include time for a complete briefing of the evaluators at the beginning and an exit interview at the end. Questions raised in the study of the program can be answered and program personnel met at the beginning. The exit interview provides further opportunity to clarify and to follow up on information gathered during the visit, and allows feedback of initial impressions to program administrators.

The evaluators conduct interviews, tour facilities, review materials, then discuss their information between orientation and the exit interview. The visit can be usually completed in a two-day period, assuming that the evaluators and the program personnel are both prepared beforehand.

Interviews. Interviews provide a direct source of information, but the right questions must be asked of the right people, who may include anyone directly or indirectly connected with the program.

The choice of whom to interview is usually a deliberate two-step procedure because of the time limits. First, the type must be determined: whether faculty members, administrators, students, staff, or patients, etc., and availability will certainly play a role in the selection process. Second, specific individuals must be selected. Relevance is the first criterion, so those who have the most knowledge of the program should be selected. If the number is large, a random sample should be used.

Observations. The two primary targets are facilities and materials. Each must contribute to meeting objectives.

The facilities must be adequate. Classroom tests, and records, and other curricular materials can be inspected. Their evaluatiodn is also based on the program objectives and other relevant criteria. Tests can be evaluated on the basis of validity and reliability. Curricular materials can be judged on accuracy, clarity, and appeal, as well as their relationship to objectives.

Outcome data. Although program outcome is an important component of a complete evaluation, it is of much less value without interviews and observations. A traditional outcome evaluation would use a control group to obtain an estimate of what the accomplilshment of the target participants would have been without benefit of the program. Since control groups are not usually feasible in cancer education programs, the estimate has to be obtained in one of three other ways.

The first is to use a normative approach. This requires the use of a test or instrument for which normative data are available on a similar population and that uses the normative populatiodn as a control group.

The second is collection of data over several years, often referred to as a Time Series Design, in which the program treatment group acts as its own control. The major advantage of this approach is that it does not require the use of a previously normed instrument; the major disadvantage is that it requires data to be collected before the program is implemented.

The third is the use of archival data collected as part of the normal program, including end-of-year or graduation tests, attendance records, clinical logs, etc. The major disadvantage of using this type of data is that its availability is often a matter of luck.

Outcome evaluation should also be guided by the program's objectives and would usually include attitudinal and performance (clinical) outcomes as well as cognitive outcomes. Appropriate measures of these is highly important and is dependent on skillful design.

Report Preparation: Phase Three

Preparation of the evaluator's report also requires three phases—sharing information, analyzing the data, and preparing the report. Most of the work is done subsequent to the visit and involves both members. The evaluation specialist will take the leadership role at this stage by merging the information, analyzing the data, and preparing the draft of the report. The oncologist will participate by sharing the information collected during the visit, including personal observations, and critiqueing the draft of the evaluation report.

At this point, it is easy to see why the team concept is so important to the evaluation. Though the oncologist and the evaluation specialist may have observed the same things during their on-site visit, they often comprehend and interpret them in different ways. For example, the oncologist may be judging the content validity of a classroom test while the evaluation specialist will be judging its reliability. The different perspectives are what gives depth to the evaluation.

An evaluator can analyze the information in a number of ways; however, much of it can be analyzed using content analysis (Lee & McLean, 1978). Some of the data will also be amenable to more traditional quantitative analyses. For the most part, the data analyses serve to summarize the data for the evaluation report.

The evaluation report provides feedback to the program, so it should be complete, yet as concise as possible. There are a number of acceptable methods for organizing the evaluation report (McLean & Lee, 1982). The overriding criterion should be the report's precision of analysis, not only of the overall effectiveness of the program, but also of its specific strengths and weaknesses, followed by recommendations.

Discussion

The major advantage of the evaluation method described in this paper is that it takes into account the current developmental stage of the program, i.e. the purpose of the evaluation model is not merely to indicate whether or not the program was successful, but to indicate how it can be improved. Thus, several aspects of the model should not be ignored. These aspects are the evaluation team concept, the multiyear approach, and the early emphasis on process rather than on outcome.

The evaluation team must include both an oncologist and an evaluation specialist. The evaluation specialist will design and implement the evaluation, but needs the advice of the oncologist on content and interpretation. Similarly, the oncologist will examine and judge the content, but probably will not be able to completely analyze the results.

It is important that the evaluation be repeated periodically. A new program generally has three distinct phases—developmental, testing, and validation. Each calls for a different emphasis in the evaluation. In the developmental phase, emphasis should be on the process and be formative. During the test phase, where collection of outcome data has begun, process evaluation is still emphasized, but the outcome evaluation is also necessary. The validation phase calls for a complete outcome evaluatiodn to determine whether or not the program is effective.

Evaluation is often interpreted to mean only outcome evaluation. Process evaluation is often ignored even though it is particularly important in the developmental and testing phases of a program. The model presented in this paper gives appropriate attention to all stages of program activity. Failure in implementation often results in effective programs; this model of evaluation also provides for proper attention to program administration.

The evaluation approach described in this paper is also economical. A two-day visit, 10-person-days of outside assistance, four days from an oncologist and six from an evaluation specialist are required.

Summary

The evaluation model described in this paper is a comprehensive evaluation approach using an external evaluation team, an oncologist and a program evaluation specialist, who cooperate in preparing and conducting an onsite visit, and writing an evaluation report. The model costs about the same to implement as an internal evaluation, but maintains the integrity of an external evaluation.

The model is now in its fourth year of use by the Louisiana State University School of Dentistry Clinical Cancer Education Program. Results from the first three years have proved satisfactory from the viewpoints of the evaluators, the project administrators, and the funding agency. Second, third, and fourth year evaluators found that numerous first year problems were solved as a result of an evaluation according to this method.

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